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Diversity of the Ports-of-Entry Along the 49th Parallel

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Introduction. This article discusses some traits of the ports-of-entry arrayed along the Canada – U.S. land border. The article focuses upon that portion of the border commonly referred to as the "49th parallel," omitting discussion of the Canada – Alaska border. Discussion is also focused solely upon the usage of the ports by personal vehicles. Our intent is to reveal something about the "border experience" over the past decade, spanning the period in which post-9/11 border security measures have been deployed. There has been commentary about the extent to which cross-border travel has diminished in response to the "hardening" of the border, with ensuing impact upon the social fabric of borderlands. Our analysis reveals that there is likely a diversity of border experiences along the length of the border.

Data. There are 117 inspection facilities located on the U.S. side of the land border that stretches from Washington/British Columbia to Maine/New Brunswick.[1] Each such facility serves a specific cross-border road linkage. Administratively, the U.S. Customs and Border Protection Agency (CBP) groups those facilities into 77 ports-of-entry, with a given port comprised of one or more nearby inspection facilities. In Detroit, for example, both the Ambassador Bridge and the Detroit-Windsor Tunnel are administered as a single port.

CBP collects monthly counts of the number of personal vehicles entering the U.S. at each port-of-entry, and some of that data is available online.[2] We retrieved monthly data for 24 ports for the period from January 1996 through December 2006. We chose ports of diverse size and location, ensuring that in each of 9 border states we examined both the largest port (by volume), and a small port. We also retrieved full-year data for 2006 for all 77 ports. The 24 ports chosen for monthly analysis accounted for 76 percent of the cross-border traffic in 2006, so the insights gained from studying those ports are likely to have reasonable validity. Different plots of the data are used in this article in order to reveal patterns.

Mega-Ports. Figure 1 reveals a great diversity in the volume of traffic handled by various ports. The four largest ports are represented by individual slices of the pie, with other slices representing groups of ports that have similar magnitudes of traffic flow. Note that the largest four ports collectively handle 55 percent of the influx, while the 30 smallest ports together handle just 1 percent.

A map of population density provides the best understanding of why traffic volumes are highest at certain ports. The common characteristic of Figure 1's four mega-ports is that in each instance there is a major Canadian population center located close to the border, coupled with a geographic quirk that constrains drivers' options. In the case of Detroit, Buffalo, and Port Huron, the most highly urbanized area in Canada (including Windsor, London, and Toronto) is just across the border, and the geography of the Great Lakes constrains convenient southbound travel to just these three points. In the case of Blaine, the adjacent Vancouver metro area is separated from the rest of Canada by the Rocky Mountains, whereas amenities in the U.S. are present a short distance to the south.

Securitization Strategy. The funneling of most traffic through a relatively small number of ports has influenced CBP's strategy for deployment of security measures. One recent measure was the installation of radiation portal monitors (RPMs), which are drive-through sensors that detect the presence of radioactive materials. In 2003, CBP installed RPMs at 18 priority ports on the Canada – U.S. border. CBP's website now notes that 80 percent of personal vehicles entering the U.S. are screened.[3] The website, as well as other public documents, is vague about which ports boast RPMs, presumably as a security measure. Note, though, the close correspondence between CBP's statistic and the traffic flows revealed in Figure 1 (i.e., that the 17 largest ports accommodate 86 percent of the traffic). The RPMs clearly are installed at the higher-volume ports. In a similar manner, CBP notes that automated license-

Figure 1. Proportion of Vehicles Entering the U.S. via Various Ports-of-Entry, 2006

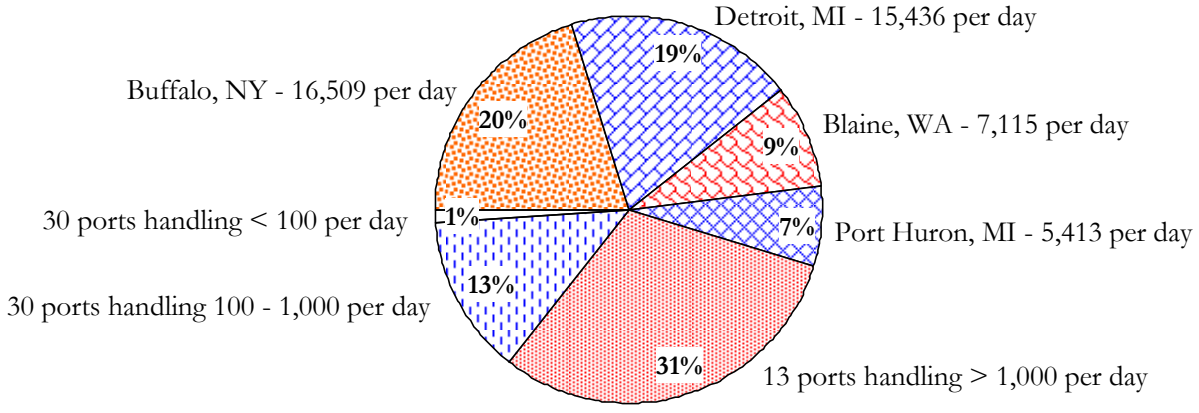


Figure 2. Detroit, MI — 15,436 per day

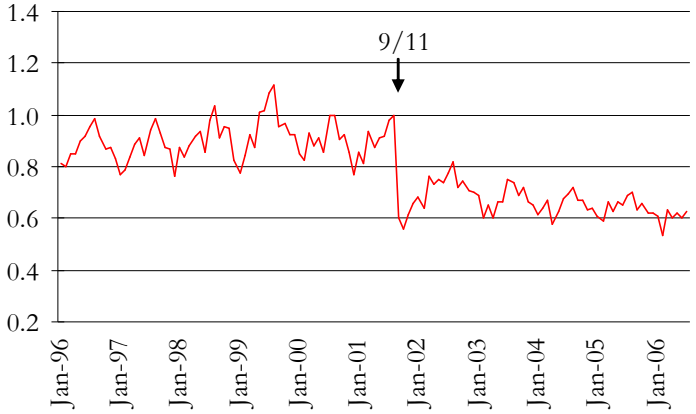


Figure 3. Blaine, WA (I-5) — 7,115 per day

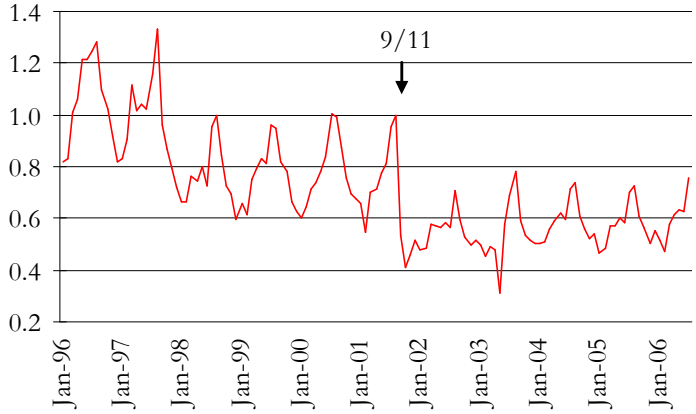


plate readers (LPRs) have been deployed at 65 of the 103 ports-of-entry that exist along the Canadian and Mexican borders combined. To a motorist approaching an inspection facility, LPRs and RPMs are visually imposing, lending a "hardened" appearance. The border experience is thus aesthetically gentler for travelers entering the U.S. at one of the many ports not equipped with these security devices.

Traffic Patterns over Time. A time-series graph was plotted for each of the 24 ports for which monthly data was retrieved, and several of the graphs are used in the remainder of the article. For each port, an entire decade of data is normalized relative to that port's traffic volume in the month of August 2001 (i.e., a given month's traffic count is divided by the August 2001 count). In each graph, therefore, the data point for August 2001 is "1.0." Months with lower traffic are represented by decimals less than 1.0, and higher-volume months plot as greater than 1.0. The vertical and horizontal axes of each graph are identical, and the title above each graph identifies the average number of vehicles per day entering the U.S. via that port during calendar year 2006. The design of the graphs is meant to facilitate comparisons between ports, with an eye toward the overall trend of traffic (i.e., declining, increasing), the degree of seasonality exhibited at a given port, and the change in pattern (if any) in the aftermath of 9/11.

Figure 2 shows the traffic history at Detroit, the second-busiest port on the Canada – U.S. border. The abrupt change in pattern coincident with 9/11 is quite obvious, but other aspects of the graph will be discussed in some detail in order to help the reader interpret the entire collection of graphs. Looking at the period *prior* to 9/11, a stable pattern is evident. The overall traffic volume is fairly constant, as is the degree of seasonal peaking. The seasonal peaks are relatively small, with traffic in the winter persisting at a level that is approximately 80 percent of the summer peak load — i.e., the pre-9/11 troughs dip to a level of 0.8. As we shall see, other ports exhibit larger seasonal fluctuations.

Turning now to the period *after* 9/11, changes in the pattern are evident. First, the winter baseline traffic volume is lower by about 25 percent (i.e., from 0.8 down to 0.6), and this change is persistent. Second, the degree of seasonal peaking declines over time. The summer of 2002 exhibits a seasonal peak comparable in magnitude to that of earlier years, but each peak is successively weaker thereafter.

Blaine (Figure 3) is another port that exhibits an obvious change associated with 9/11, and in some ways the overall pattern is similar to that of Detroit — i.e., after 9/11 Blaine has lower winter baseline traffic and reduced summer peaks. However, interesting differences between the two ports are also evident. Blaine exhibits a greater degree of seasonal peaking throughout the decade, and a trend of significant traffic decline is evident prior to 9/11.

With respect to differences in the magnitude of seasonal peaking between any two ports, it is important to delve a little deeper. Because of the method used to develop these graphs, a summer peak of identical raw magnitude (e.g., 1,000 more cars per day) would look larger in Blaine than in Detroit, be-

Figure 4. Buffalo, NY — 16,509 per day

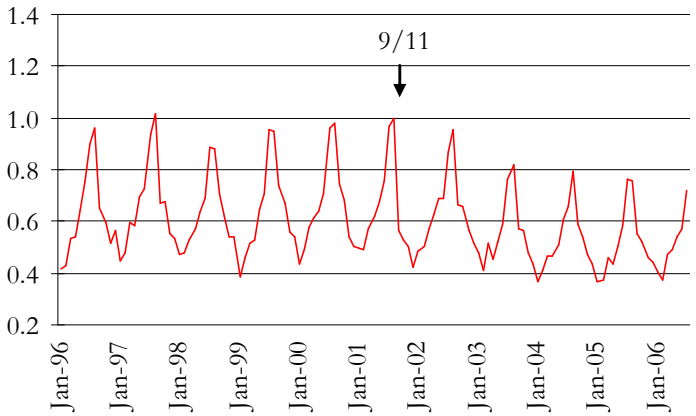


Figure 5. Port Huron, MI — 5,413 per day

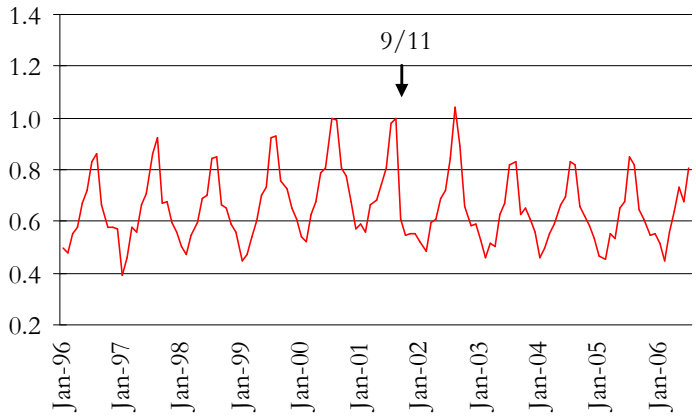


Figure 6. Champlain, NY (I-87) — 2,668 per day

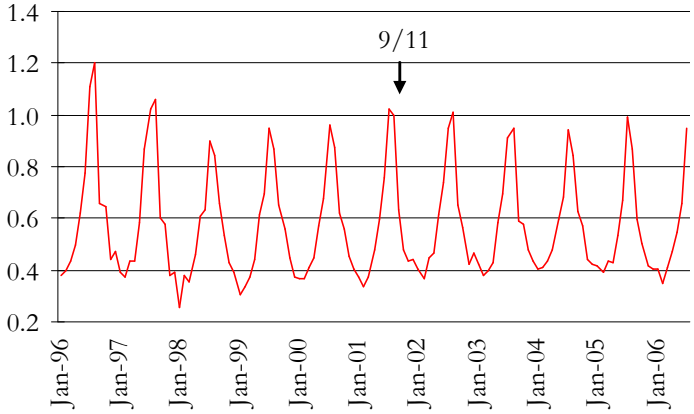
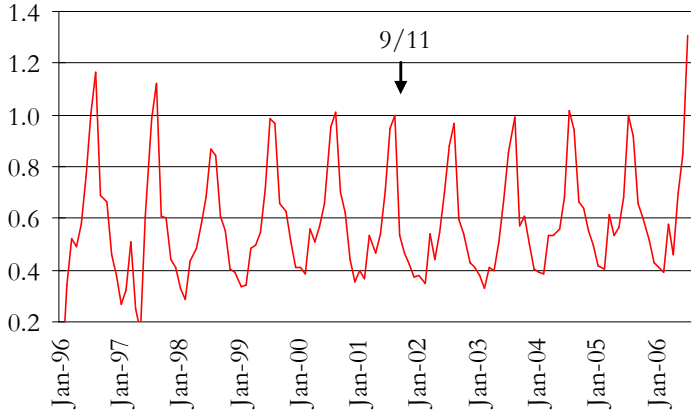


Figure 7. Pembina, ND (I-29) — 757 per day



cause of the smaller baseline volume present in Blaine. Generally, then, differences in the degree of peaking exhibited at ports of similar size (e.g., Detroit and Buffalo, Figures 2 and 4) can provide useful insight into the kind of clientele using each port. It is less useful to compare peaking factors at ports that differ greatly in baseline traffic volume.

The decline in traffic at Blaine is the subject of a prior study by this Institute.[4] Culprits in the trend are factors such as the then-declining strength of the Canadian dollar, coupled with changes in the relative prices of retail commodities such as gasoline, milk, and clothing. The earlier study concluded, though, that no obvious economic factor could account for the lower traffic volume in the post-9/11 era. The author surmised that some non-economic factor was at play, such as an increase in the perceived difficulty of crossing the border, or heightened anti-American sentiment among Canadians.

Of the 24 ports studied, only 3 (Detroit, Blaine, and Calais, ME) show a sharp rupture associated with 9/11, while other patterns are found elsewhere. Figures 4 and 5 are graphs of the other two mega-ports, and in neither case is 2002 markedly different than 2001. Port Huron actually shows higher peak flows in the year following 9/11. Notice, though, that these ports exhibit a common pattern in 2003 and beyond. The winter baseline volumes are stable at a lower level than pre-9/11, and the summer peaks are considerably smaller. We believe that this pattern, because it so greatly lags 9/11, is attributable to factors other than the rigorous inspections and accompanying congestion that became the norm in late 2001. Recall that the spring of 2003 brought both the U.S. invasion of Iraq and the SARS incident in Toronto. Other researchers have commented upon the depth of anti-American sentiment within Canada in the wake of the invasion,[5] the parallel anti-Canadian feeling among those Americans that were disappointed with Canada's refusal to support the invasion, and the impact of such factors upon cross-border visitation. In addition, RPMs were deployed in 2003, changing the border's appearance. We believe that several such factors, in some regions more than in others, colored the border experience and led to the decline in traffic.

It is interesting that a common pattern is not evident at Port Huron, Buffalo, and Detroit, given that they all serve the southern Ontario peninsula. Of the three, the Detroit-Windsor metropolitan area contains the greatest population density in immediate proximity to a port, and we have already seen that Detroit exhibits a relatively small degree of seasonal peaking. We surmise that Detroit's pre-9/11 cross-border traffic included a large component of discretionary trips, throughout the year, emanating from within the near-border region. After 9/11, residents must have curtailed such trips, and the social fabric of the border region likely has suffered.

Figures 6 and 7 reveal yet a different pattern. Each of these ports is located on a major highway that serves both as a cross-border tourism gateway and as a main connector between significant cities located a bit distant from the border. (Pembina lies between Winnipeg and Grand Forks, and Champlain lies between Montreal and Plattsburgh.) These graphs seem to

Figure 8. Sweetgrass, MT (I-15) — 646 per day

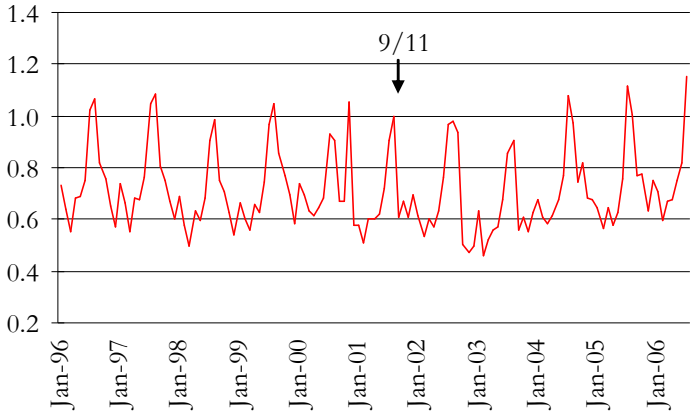


Figure 9. Vanceboro, ME (SR-6) — 190 per day

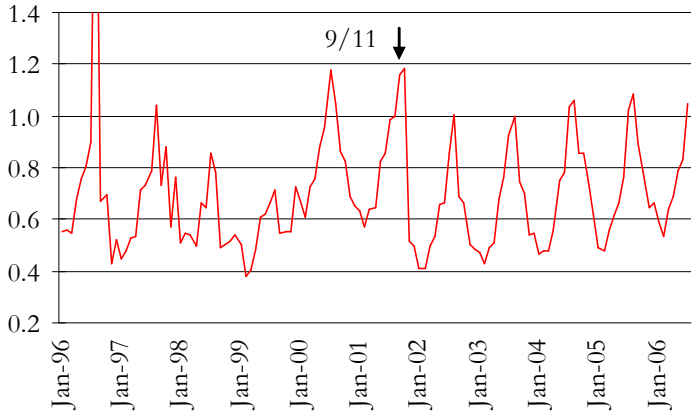


Figure 10. Aggregate of 4 Mega-Ports

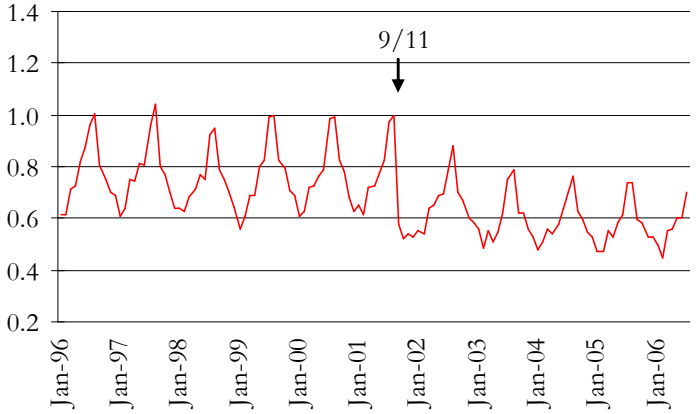
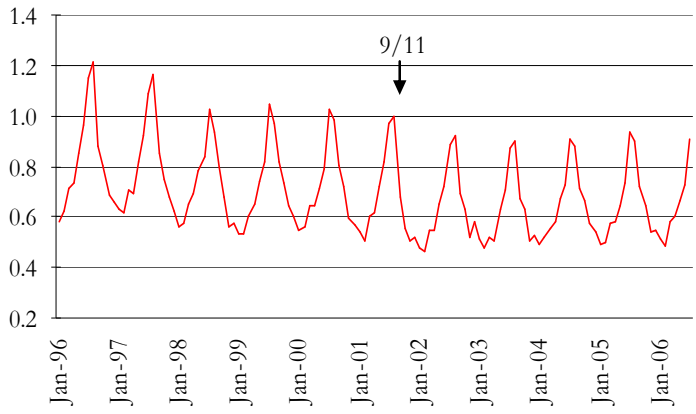


Figure 11. Aggregate of 73 Lesser Ports



indicate "business as normal," although a 2003 downturn is evident to some extent at Champlain. Seasonal peaking is greater at these ports than in those previously discussed, probably indicating that an increasingly large component of traffic is attributable to tourism.

Figures 8 and 9 provide examples of a final type of trend. Some post-9/11 impact is evident, either immediately and/or in 2003, but traffic levels dip only briefly and then proceed to climb. Like Pembina and Champlain, Vanceboro and Sweetgrass are located on routes that primarily serve population centers distant from the border. Sweetgrass is located on the main highway connecting Calgary and Edmonton to the U.S., and Vanceboro is one of three ports in Maine (the others being Calais and Houlton) that serve the main highways linking Nova Scotia and New Brunswick to the U.S. All three of the Maine ports exhibit this rebound in traffic volume post-9/11.

Of the 24 ports we analyzed, a majority showed trends akin to those evident in Figures 6 through 9 — i.e., "business as normal," or "rebound after initial dip."

Figures 10 and 11 are designed to reveal the contrast between the mega-ports and the others, with the first figure showing the aggregate monthly traffic of the four mega-ports (Buffalo, Detroit, Blaine, and Port Huron), and the second showing the aggregate of all 73 remaining ports. Looking first at Figure 11, it shows a marked decline in traffic in the half decade prior to 9/11, presumably driven by major economic factors such as the state of the North American economy and the decline in the purchasing power of the Canadian dollar. The effect of 9/11 is discernable, a 2003 "bottom" is evident, and a slow rebound in traffic is ongoing. However, a person ignorant of 9/11 might reasonably conclude that the graph could be explained by the aforementioned economic factors. The decline observed from 2001 to 2002 is no greater in magnitude than the ones evident in preceding years.

It is the mega-ports that clearly reveal a 9/11-related change, as can be seen in Figure 10. The stable pattern of the early years is broken, and both the baseline winter traffic and the summer peak traffic show persistent decline.

Conclusion. We are mindful of the pitfalls associated with over-interpretation of these graphs. A given graph conclusively reveals only the volume of cross-border traffic at a given port, not the sentiments and motives of the travelers, and not the difference in composition of clientele over time. The statements that *can* be made are thought-provoking, though:

- Abrupt changes in traffic volume associated with 9/11 are evident at only a small number of ports.
- At some ports, strong declines in traffic are evident in 2003, well after the imposition of new inspection regimes.
- Significant 9/11-related and 2003-related effects are evident at the four mega-ports of Buffalo, Detroit, Blaine and Port Huron. The effects are persistent, and traffic at these ports generally continues to decline.
- At the remaining 73 ports collectively, a marked decline in traffic is evident prior to 9/11, and an increase in traffic has occurred since 2003.
- At many ports, traffic changed very little throughout the decade from 1996 through 2006.

Engaging in conjecture, based upon the graphical evidence, we believe that the post-9/11 border experience is not uniform along the 49th parallel. There likely are many border communities where cross-border interactions are the same today as they were a decade ago; where the port facility looks no different, the congestion is no worse, and the locals make the same visits to their neighbors across the border. Conversely, there are a few regions where the border experience is considerably worse.

This analysis convinces us of the need for a better understanding, at both large ports and small, of the factors truly responsible for changes in traffic volumes. Such an understanding would help inspection agencies pursue solutions that are appropriate to the actual problems at hand. CBP can't be held responsible for a decline in traffic that is caused by Canadians' attitudes regarding the Iraq war, but it can be asked to tackle a problem of reduced throughput at a specific port, where the problem is clearly attributable to issues associated with the inspection facilities or processes.

Endnotes.

1. List provided by Brian Anuszewski of CPB in email dated 24 May 2007
2. See http://transtats.bts.gov/BorderCrossing.aspx
3. See http://cbp.gov/xp/CustomsToday/2006/may/radiation_portal.xml
4. See BPRI Research Note No. 2, February 2006, "Explaining the Decline in Border Crossings Since 1990," which can be retrieved at http://ac.wwu.edu/~bpri/resources.html
5. See, for example, the Pew Research Center report of 23 June 2005 concerning Canadians' attitudes toward Americans, which can be retrieved at http://pewglobal.org/reports/pdf/247canada.pdf